

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

---

TWO NEW APHIDS FROM *PINUS CONTORTA*

BY F. C. HOTTES

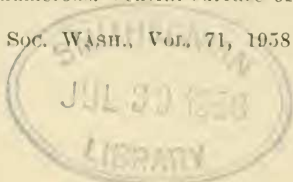
The new species described herewith are allied to a third species *Cinara brevispinosa* G & P and are likely to have been taken for it.

*Cinara contortae* n. sp.

*Apterous viviparous female.*

Length from vertex to end of cauda varying from 2.55-3.15mm. Color notes from living specimens not available. Color as presented by cleared mounted specimens as follows: Head and thorax pale brown, cornicles brown, femora pale at the base with remainder brown, tibiae brown with pale band on basal half of segment.

*Head and thorax.* Antennal segments one and two concolorous with head, antennal segments III, IV and V pale with apical regions brownish. Sixth antennal segment brown, distinctly imbricated, marginal sensoria in a row, with wide rims, close to primary. Sensoria distributed as follows: III none or with primary, IV with only primary sensorium, V with primary and one secondary sensoria, or with secondary sensorium absent. Hairs on third antennal segment sparse, coarse, spinelike, shorter than width of segment, set at an angle of about forty-five degrees. Hairs on fifth antennal segment numerous about equal to width of segment in length, less spinelike than hairs on third segment. Vertex of head with hairs varying in length from .045-.06mm. coarse, spinelike. Dorsum of head with few hairs, they being similar to those on vertex. Ocular tubercles present, but small. Last three segments of the rostrum with the following lengths: .18, .17 and .08mm. when extended the rostrum reaching to just beyond cornicles. Prothoracic femora varying from .75-.78mm. Prothoracic tibiae varying from 1.14-1.20mm. Metathoracic femora 1.12mm. Metathoracic tibiae 1.90mm. Metathoracic tarsal segments .09 and .23mm. long. Hairs on pale basal portion of metathoracic femora very fine and about .07mm. in length, remaining hairs about .04mm. in length, and distinctly spine-like. Hairs on outer margin of metathoracic tibiae varying in length from .03-.05mm. distinctly spinelike, spaced not much if any closer than their length, with the longest hairs on the apical fourth of segment. On the basal half of segment the hairs on the outer margin of the metathoracic tibiae are set at an angle of about forty-five degrees, the longer hairs near the apex are set at a lesser angle. Hairs on the inner margin of the metathoracic tibiae fine, on apical fourth of this margin distinctly more numerous. Ventral surface of the first metatarsal



segment with about ten hairs. Union of first and second metatarsal segments longer than width of second segment at junction. Hairs on ventral surface of second metatarsal segment about as long as hairs on dorsal surface, but distinctly more numerous. Mesosternal tubercle present, but so poorly developed that it has to be looked for. Pigmented areas on the dorsum of the thorax with few hairs similar to those on the dorsum of the head.

*Abdomen.*—Dorsum of abdomen with a few small scattered pigmented spots which vary in shape and size, the most consistent and largest being just anterior to the pigmented spots anterior to the cauda. Hairs on dorsum of abdomen quite similar to those on the dorsum of the head, increasing slightly in length from front to rear of abdomen, few in number. Hairs on ventral surface of abdomen numerous, fine, long. Dorsum of abdomen very finely reticulated, the reticulations being larger towards the rear, here they are also indicated by setulae. Pigmented areas anterior to cauda with a row of long fine hairs along the posterior margin.

Cornicles varying in width at the outer margin from .33-.40mm. Hairs on cornicles sparse, those on cone about .08mm. in length fine. Outer surface of cornicles with very few hairs, at the most four or five, and these distinctly spinelike, and much shorter than the hairs on the cone. Outer margin of cornicles irregular, but not distinctly so. Cauda and anal plate with black setulae, both provided with long fine hairs. Hairs on genital plate few, confined largely to ends.

Holotype apterous viviparous female, deposited in the collection of E. O. Essig. Data associated with holotype: *Pinus contorta*, Upper Echo Lake, California, Alt. 7500 ft. Aug. 6, 1937. Collected by E. O. Essig.

This species may be differentiated from *C. brevispinosa* G. & P. by the absence of transverse pigmented areas on the dorsum of the abdomen, and by the irregular arrangement of hairs on the dorsum, and by the arrangement and character of hairs on the cornicles. From *C. banksiana* P. & T. this species differs by having fewer hairs on the pigmented dorsal portion of the thorax, fewer hairs on the metathoracic tibiae, which are also shorter, and by having the hairs on the inner surface of the metathoracic tibiae unlike those on the outer surface, and by fewer hairs on the cornicles.

*Cinara parvicornis* n. sp.

*Oviparous female.*

Length from vertex to end of anal plate varying from 2.47-3.15mm. Color in life not recorded. Color as represented by cleared mounted specimens as follows: head and thorax brown shaded with dusky, the pigmented areas of the dorsum of the thorax somewhat darker than the head. First antennal segment concolorous with head. Second antennal segment pale dusky, not as dark as the first segment. Antennal segments three, four and five pale with the apical portions dusky, the dusky area of the fifth segment being the most extensive. Sixth antennal segment uniform brown. Pro and mesothoracic femora shading from light dusky at the base to brown at apex. Metathoracic femora pale dusky on basal half shading quickly to brownish black. Pro and



ments are less spinelike than those on the third. The hairs on the sixth antennal segment are very sparse, and fine, however they are no longer than those on the third. The apex of the fifth and all of the sixth antennal segments are imbricated. The marginal sensoria on the sixth antennal segment are in a double row, they have wide rims. The hairs on the vertex of the head and those on the dorsum are sparse, slightly longer and more spinelike than those on the antennae. The ocular tubercles are small. The rostrum when extended fails to reach the cornicles by about the length of the last three segments, which have a length as follows: .18, .19, .07mm. The prothoracic femora vary in length from .65-.75mm., the tibiae of the same vary from .90-.99mm. The metathoracic femora vary from 1.08-1.20mm., the tibiae of the same vary from 1.80-2.10mm. The hairs on the pro and mesothoracic femora are fine and comparatively short, the hairs on the metathoracic femora vary from .03-.04mm. in length, they are definitely shorter and more spinelike than the hairs on the femora of the pro and mesothorax, the more heavy spinelike hairs being towards the apex. The hairs on the metathoracic tibiae are similar on the outer and inner margins, they are only somewhat spinelike, and definitely shorter than one half the width of the tibiae. The hairs towards the apex of the segment are slightly longer and more droopy than the hairs closer to the base, they are also slightly longer. On the outer margin of the tibiae the hairs are from .03-.04mm. in length, quite sparse near the base where they are spaced further apart than their length, towards the end of this segment the hairs increase in number. The first metatarsal segment has about twelve hairs on its ventral surface, it is about .11mm. long. The second metatarsal segment is from .23-.24mm. long, the hairs on its ventral surface are extremely short, much shorter than the hairs on the dorsal surface. The union of the first and second metatarsal segments is no wider than the width of the second segment at the base.

*Abdomen.*—The dorsum of the abdomen is extremely finely reticulated. The hairs on the dorsum of the abdomen are very sparse, fine and short, ranging in length from just long enough to be present to .03mm., with most of the hairs not much longer than .015mm. Most of the hairs arise from a small pale area which in turn is within a small brownish band. The outer margin of the cornicles measures about .18-.19mm. it is quite irregular. The hairs on the cornicles are very sparse, and are no more numerous on the raised area than on the margin, in length they range from very short to about .015mm. Cauda and anal plate with setulae, both with long fine hairs. Genital plate large, slightly concave on anterior and posterior surfaces, well provided with fine hairs which cover all of the surface.

*Alate male.*—Length from vertex to end of anal plate 2.10mm. Length of antennal segments as follows: III .46-.50mm., IV .24-.25mm., V .24-.28mm., VI .11+ .05mm. Sensoria distributed as follows: III 61-68, IV 13-17, V 6-9. The sensoria on all antennal segments show considerable variation in size. Hairs on antennae short, much shorter than width of segment, sparse, fine. All of sixth antennal segment and most of fifth with well developed imbrications. Media twice branched, with the second fork much closer to the margin of the wing than to the first. Area of wing beneath costal margin dark dusky. Hairs on metathoracic tibiae much longer than the hairs on the tibiae of the oviparous female,

fine, similar on outer and inner margins, more droopy and more numerous towards the apex. Hairs on anterior margin of metathoracic femora near apex long and fine, hairs on the posterior margin in this region short and spinelike, hairs on both margins near base fine, much sparser than hairs near apex. Cornicles about .18mm. across the outer margin, more extensive than the cornicles of the oviparous female, and with more hairs, but with the hairs sparse. Restricted area of the cornicles higher than is the case in the oviparous females and acentric, being closer to the posterior margin. Pigmented spots anterior to cauda unequal in size, with a row of hairs on the posterior margin. Genital plate elongated, narrow, slightly concave on anterior and posterior surfaces. Hairs on genital plate numerous and covering entire surface. Anterior to the genital plate there is a pigmented band which is also covered with hairs. Hairs on the gonapophyses short and fine, inner margins of the gonapophyses elongated, quite finger like. Holotype, oviparous female, allotype alate male, both deposited in the United States National Museum. Host, *Pinus contorta* (lodgepole pine). Flathead, Montana. Sept. 21, 1955. Collected by David McComb.

In Palmer's key to the genus *Cinara* in Aphids of the Rocky Mountain Region, this species would most likely be keyed to *C. atra* (G&P), but not without question, and a species with which it has little in common. Because of the short hairs on the tibiae and similar host it is most likely to be taken for *C. brevispinosa* (G&P). When *brevispinosa* was described the presence of pigmented bands, provided with a few very short spinelike hairs on the dorsum of the abdomen was not recorded, possibly because no specimens were cleared, these bands are lacking in *parvicornis*. The cornicles of *parvicornis* in the oviparous female are very distinctive, the cornicles of the viviparous females should be similar, and should in themselves be enough to distinguish this species from other species on *Pinus contorta* as well as other species within the genus.